

What is claimed is:

1. An operation method of a portable personal device having facilities for storing and playing digital contents by control from a computer through a serial or parallel cable, the method comprising the steps of:

5 (a) receiving a format request command from the computer through a serial or parallel cable for formatting an internal memory installed in the portable personal device or an external memory in an external memory card inserted from outside the portable personal device;

10 (b) sending from the portable personal device through a serial or parallel cable a signal indicating that the portable personal device is ready to format to the computer, when the portable personal device is ready to format;

(c) receiving an execution command from the computer through a serial or parallel cable for executing the format request command received in the step (a); and

15 (d) formatting the corresponding memory, when the execution command is received in the step (c), and then sending the result to the computer through a serial or parallel cable, wherein the structure of the transmission data which is received or sent in the steps (a) through (d) includes a start separator character for indicating a start of transmission data, information on length of the transmission data, an intermediate separator character for indicating a start of a command code or state information, the  
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command code or state information, and an end separator character for indicating an end of transmission data.

2. The operation method of claim 1, before the step (a) further comprising the steps of:

(e) receiving a start sub-command from the computer through a serial or parallel cable for indicating start of a new control command; and

5 (f) sending state information of the portable personal device through a serial or parallel cable to the computer, when the sub-command is received in the step (e).

3. The operation method of claim 1 or claim 2, wherein sending and receiving data between the computer and the portable personal device through a serial or parallel cable in each step is mediated by a docking station.

4. An operation method of a portable personal device having facilities for storing and playing digital contents by control from a computer through a serial or parallel cable, the method comprising the steps of:

(a) receiving a refresh-directory request command from the computer  
5 through a serial or parallel cable for requesting a whole file information of a predetermined directory on an internal memory installed in the portable personal device or an external memory in an external memory card inserted from outside the portable personal device;

(b) sending from the portable personal device through a serial or  
10 parallel cable a signal indicating that the portable personal device is ready for  
refresh-directory to the computer, when the portable personal device is ready  
to send the whole file information of the directory;

(c) receiving an execution command from the computer through a  
serial or parallel cable for executing the refresh-directory request command  
15 received in the step (a); and

(d) sending, when the execution command is received the step (c), file  
information including file name, file extension, file attribute, time, date and  
file size of each file in the directory, to the computer through a serial or  
parallel cable, wherein in the step (b), information on length of total data to be  
20 sent in the step (d) is sent together, and in the step (d), information on size of  
total memories and usable memories is sent together.

5. The operation method of claim 4, wherein the root directory or  
a sub directory can be designated as the predetermined directory.

6. The operation method of claim 4, before the step (a) further  
comprising the steps of:

(e) receiving a start sub-command from the computer through a serial  
or parallel cable for indicating a start of a new control command; and

5 (f) sending state information of the portable personal device to the  
computer through a serial or a parallel cable, when the start sub-command is  
received in the step (e).

7. The operation method of any one of claims 4-6, wherein  
sending and receiving data between the computer and the portable personal  
10 device through a serial or parallel cable in each step is mediated by a docking  
station.

8. The operation method of claim 7, wherein the step (d) further  
comprises the sub-step of:

(d1) synchronizing the docking station and the portable personal  
device, after receiving the execution command in the step (c), and before  
5 sending the file information.

9. An operation method of a portable personal device having  
facilities for storing and playing digital contents by control from a computer  
through a serial or parallel cable, the method comprising the steps of:

(a) receiving a file download request command from the computer  
5 through a serial or parallel cable for requesting to download a predetermined  
file into an internal memory installed in the portable personal device or into an  
external memory in an external memory card inserted from outside the  
portable personal device;

(b) sending to the computer through a serial or parallel cable a signal  
10 indicating that the portable personal device is ready to receive the  
predetermined file, when the portable personal device is ready to receive the  
predetermined file; and

(c) receiving the predetermined file sent on a block-by-block basis by the computer through a serial or parallel cable, wherein in the step (b) information on byte size of a unit block in the step (c) is also sent.

10. The operation method of claim 9, wherein information on the byte size of the unit block in the step (c) which is sent in the step (b) is a positive integer, and the byte size of the unit block in the step (c) is set to a value obtained by multiplying a value, which is obtained by raising 2 to the power of the positive integer, by 512.

11. The operation method of claim 9, wherein in the step (a) the file download request command includes a file name, date, time and file size of the predetermined file.

12. The operation method of claim 11, wherein an extended file name having a directory hierarchy structure can be used for the file name of the predetermined file included in the file download request command in the step (a).

13. The operation method of claim 9, wherein the step (c) further comprises the sub-steps of:

(c1) synchronizing the computer and the portable personal device before receiving the predetermined file from the computer; and

- 5 (c2) sending information on whether or not end block is normally received when each block of the predetermined file is received from the computer, except when a last block is received.

14. The operation method of claim 9, before the step (a) further comprising the steps of:

(d) receiving a start sub-command from the computer through a serial or parallel cable for indicating a start of a new control command; and

- 5 (e) sending the state information on the portable personal device through a serial or parallel cable to the computer, when the start sub-command is received in the step (d).

15. The operation method of any one of claims 9-14, wherein sending and receiving data between the computer and the portable personal device through a serial or parallel cable in each step is mediated by a docking station.

16. An operation method of a portable personal device having facilities for storing and playing digital contents by control from a computer through a serial or parallel cable, the method comprising the steps of:

- (a) receiving a file download request command from the computer  
5 through a serial or parallel cable for requesting to download a predetermined file into an internal memory installed in the portable personal device or into an

external memory in an external memory card inserted from outside the portable personal device;

(b) sending state information on file-receive readiness of the portable  
10 personal device to the computer through a serial or parallel cable; and

(c) receiving, when the state information on file-receive readiness sent in the step (b) indicates that the portable personal device is ready to receive a file, the predetermined file on a block-by-block basis sent by the computer through a serial or parallel cable,

15 wherein the file download request command in the step (a) includes file attributes, date, time, file size and name of the predetermined file, the state information on file-receive readiness in the step (b) includes information on a byte size of a unit block in the step (c), and, when a file having an identical file name to that of the predetermined file exists in the portable personal  
20 device, the state information further includes information on file size of the existing file.

17. The operation method of claim 16, wherein information on byte size of a unit block in the step (c) which is returned in the step (b) is a positive integer, and the byte size of the unit block in the step (c) is set to a value obtained by multiplying a value, which is obtained by raising 2 to the power of  
5 the positive integer, by 512.

18. The operation method of claim 16, wherein an extended file name having a directory hierarchy structure can be used for the file name of the predetermined file included in the file download request command in the step (a).

19. The operation method of claim 16, wherein the file download request command in the step (a) further includes information on a time limit in which the state information on file-receive readiness of the step (b) must be sent.

20. The operation method of claim 16, wherein the file download request command in the step (a) includes flags on whether or not the predetermined file is generated, whether or not the predetermined file is appended, whether or not the predetermined file to be received in the step (c)  
5 is to be reproduced during download, and whether or not information on a water mark to prevent copying is included.

21. The operation method of any one of claims 16-20, wherein sending and receiving data between the computer and the portable personal device through a serial or parallel cable in each step is mediated by a docking station.

22. An operation method of a portable personal device having facilities for storing and playing digital contents by control from a computer through a serial or parallel cable, the method comprising the steps of:



(a) receiving a file upload request command from the computer  
5 through a serial or parallel cable for requesting to upload a predetermined file  
in an internal memory installed in the portable personal device or in an  
external memory in an external memory card inserted from outside the  
portable personal device, to the computer;

(b) sending information on the size of the predetermined file to the  
10 computer through a serial or parallel cable, when the portable personal device  
is ready to upload the predetermined file to the computer; and

(c) sending the predetermined file on a block-by-block basis to the  
computer through a serial or parallel cable.

23. The operation method of claim 22, wherein in the step (b)  
information on byte size of a unit block to be sent in the step (c) is also sent.

24. The operation method of claim 23, wherein information on the  
byte size of the unit block to be sent in the step (c) which is sent in the step (b)  
is a positive integer, and the byte size of the unit block in the step (c) is set to a  
value obtained by multiplying a value, which is obtained by raising 2 to the  
5 power of the positive integer, 512.

25. The operation method of claim 22, wherein an extended file  
name having a directory hierarchy structure can be used for the file name of  
the predetermined file.

26. The operation method of claim 22, before the step (a) further comprising the steps of:

(d) receiving a start sub-command from the computer through a serial or parallel cable for indicating a start of a new control command; and

5 (e) sending state information on the portable personal device to the computer through a serial or parallel cable, when the portable personal device receives the sub-command in the step (d).

27. The operation method of any one of claims 22-26, wherein sending and receiving data between the computer and the portable personal device through a serial or parallel cable in each step is mediated by a docking station.

28. The operation method of claim 22, wherein the step (c) further comprises the sub-steps of:

(c1) receiving an execution command from the computer through a serial or parallel cable for executing the file upload request command received  
5 in the step (a), before sending the predetermined file to the computer; and

(c2) receiving feedback corresponding to each block from the computer through a serial or parallel cable indicating whether or not the computer normally received each unit block of the predetermined file.

29. The operation method of claim 28, wherein sending and receiving data between the computer and the portable personal device through

a serial or parallel cable in each step is mediated by a docking station, and the step (c1) further comprises the step of:

- 5           (c11) synchronizing the docking station and the portable personal device, after receiving the execution command in the step (c1).

30.     An operation method of a portable personal device having facilities for storing and playing digital contents by control from a computer through a serial or parallel cable, the method comprising the steps of:

- (a) receiving a file delete request command from the computer through  
5   a serial or parallel cable for requesting to delete a predetermined file in an internal memory installed in the portable personal device or in an external memory in an external memory card inserted from outside the portable personal device;

- (b) sending information indicating that the portable personal device is  
10   ready to delete the predetermined file, to the computer through a serial or parallel cable, when the portable personal device is ready to delete the predetermined file;

- (c) receiving an execution command from the computer through a serial or parallel cable for executing the file delete request command received  
15   in the step (a); and

- (d) deleting the predetermined file and sending a result to the computer through a serial or parallel cable, when the portable personal device receives the execution command in the step (c), wherein the structure of the

transmission data which is received or sent in the steps (a) through (d)  
20 includes a start separator character for indicating a start of the transmission data, information on length of the transmission data, an intermediate separator character for indicating a start of a command code or state information, the command code or state information, and an end separator character for indicating an end of transmission data.

31. The operation method of claim 30, wherein an extended file name having a directory hierarchy structure can be used for the file name of the predetermined file.

32. The operation method of claim 30, wherein in the step (b), when the predetermined file does not exist in the portable personal device, the file name of the predetermined file is changed into characters of '?' and then returned to the computer.

33. The operation method of claim 30, before the step (a) further comprising the steps of:

(e) receiving a start sub-command from the computer through a serial or parallel cable for indicating a start of a new control command; and

5 (f) sending the state information of the portable personal device to the computer through a serial or parallel cable, when the portable personal device receives the start sub-command in the step (e).

34. The operation method of any one of claims 30-33, wherein sending and receiving data between the computer and the portable personal device through a serial or parallel cable in each step is mediated by a docking station.

35. An operation method of a portable personal device having facilities for storing and playing digital contents by control from a computer through a serial or parallel cable, the method comprising the steps of:

(a) receiving a key registration request command from the computer  
5 through a serial or parallel cable for requesting to register a key to the portable personal device;

(b) sending information indicating that the portable personal device is ready to register the key, to the computer through a serial or parallel cable, when the portable personal device is ready to register the key; and

10 (c) receiving the key sent by the computer through a serial or parallel cable, wherein the key registration request command in the step (a) includes a byte length of the key.

36. The operation method of claim 35, wherein the byte length of the key included in the key registration request command in the step (a) is 1024 bytes.

37. The operation method of claim 35, before the step (a) further comprising the steps of:

(d) receiving a start sub-command from the computer through a serial or parallel cable for indicating a start of a new control command; and

5 (e) sending state information of the portable personal device to the computer through a serial or parallel cable, when the portable personal device receives the start sub-command in the step (d).

38. The operation method of any one of claims 35-37, wherein sending and receiving data between the computer and the portable personal device through a serial or parallel cable in each step is mediated by a docking station.

39. An operation method of a portable personal device having facilities for storing and playing digital contents by control from a computer through a serial or parallel cable, the method comprising the steps of:

(a) receiving a make-directory request command from the computer  
5 through a serial or parallel cable for requesting to make a predetermined directory in an internal memory installed in the portable personal device or in an external memory in an external memory card inserted from outside the portable personal device;

(b) sending information indicating that the portable personal device is  
10 ready to make the predetermined directory, to the computer through a serial or parallel cable, when the portable personal device is ready to make the predetermined directory;

(c) receiving an execution command from the computer through a serial or parallel cable for executing the make-directory request command  
15 received in the step (a); and

(d) making the predetermined directory and sending the result to the computer through a serial or parallel cable, when the execution command is received in the step (c), wherein the structure of the transmission data which is received or sent in the steps (a) through (d) includes a start separator character  
20 for indicating a start of transmission data, information on length of the transmission data, an intermediate separator character for indicating a start of a command code or state information, the command code or state information, and an end separator character for indicating an end of transmission data.

40. The operation method of claim 39, wherein in the step (b), when the predetermined directory cannot be made, the name of the predetermined directory is changed into characters of '?' and then returned to the computer.

41. The operation method of claim 39, wherein the make-directory request command in the step (a) includes a directory name, date, and time of the predetermined directory.

42. The operation method of claim 39, before the step (a) further comprising the steps of:

(e) receiving a start sub-command from the computer through a serial or parallel cable for indicating a state of a new control command; and

- 5 (f) sending state information of the portable personal device to the computer through a serial or parallel cable, when the portable personal device receives the start sub-command in the step (e).

43. The operation method of any one of claims 39-42, wherein sending and receiving data between the computer and the portable personal device through a serial or parallel cable in each step is mediated by a docking station.

44. An operation method of a portable personal device having facilities for storing and playing digital contents by control from a computer through a serial or parallel cable, the method comprising the steps of:

- (a) receiving a state information request command from the computer  
5 through a serial or parallel cable for requesting the state information of the portable personal device;

(b) sending total byte length information of the state information of the portable personal device to the computer through a serial or parallel cable, when the state information request command is received in the step (a); and

- 10 (c) sending the state information, including version, date, model name and security key of the portable personal device, to the computer through a serial or parallel cable.



45. The operation method of claim 44, wherein the state information sent in the step (c) further includes byte length information of the security key.

46. The operation method of claim 45, wherein the state information sent in the step (c) further includes a manufacturer key, byte length information of the manufacturer key, a manufacturer name, and byte length information of the manufacturer name.

47. The operation method of any one of claims 44-46, wherein sending and receiving data between the computer and the portable personal device through a serial or parallel cable in each step is mediated by a docking station.

48. An operation method of a portable personal device having facilities for storing and playing digital contents by control from a computer through a serial or parallel cable, the method comprising the steps of:

(a) receiving a security key registration request command from the  
5 computer through a serial or parallel cable for registering a security key in the portable personal device;

(b) sending information indicating that the portable personal device is ready to register the security key, to the computer through a serial or parallel cable, when the portable personal device is ready to register the security key;

10 (c) receiving the security key sent by the computer through a serial or parallel cable; and

(d) sending information indicating whether or not the security key is normally received in the step (c), to the computer through a serial or parallel cable, wherein the structure of the transmission data which is received or sent  
15 in the steps (a) through (d) includes a start separator character for indicating a start of transmission data, information on length of the transmission data, an intermediate separator character for indicating a start of a command code or state information, the command code or state information, and an end separator character for indicating an end of transmission data.

49. The operation method of claim 48, wherein the security key is a proper identifier of the portable personal device.

50. The operation method of claim 48, wherein the security key is a proper identifier of a manufacturer of the portable personal device.

51. The operation method of claim 48, wherein byte length of the security key is 128 bytes.

52. The operation method of any one of claims 48-51, wherein sending and receiving data between the computer and the portable personal device through a serial or parallel cable in each step is mediated by a docking station.

53. A control method of a portable personal device having facilities for storing and playing digital contents by a computer connected to the portable personal device through a serial or parallel cable, the method comprising the steps of:

5 (a) sending a format request command to the portable personal device through a serial or parallel cable for formatting an internal memory installed in the portable personal device or an external memory in an external memory inserted from outside the portable personal device;

10 (b) receiving a response from the portable personal device through a serial or parallel cable for indicating that the portable personal device is ready for formatting;

(c) sending an execution command to the portable personal device through a serial or parallel cable for executing the format request command sent in the step (a); and

15 (d) receiving through a serial or parallel cable a result of the execution of formatting the corresponding memory in the portable personal device, wherein the structure of transmission data which is received or sent in the steps (a) through (d) includes a start separator character for indicating a start of transmission data, information on length of the transmission data, an  
20 intermediate separator character for indicating a start of a command code or state information, the command or state information, and an end separator character for indicating an end of transmission data.

54. The control method of claim 53, before the step (a) further comprising the steps of:

(e) sending a start sub-command to the portable personal device through a serial or parallel cable for indicating a start of a new control  
5 command; and

(f) receiving state information of the portable personal device from the portable personal device through a serial or parallel cable.

55. A control method of a portable personal device having facilities for storing and playing digital contents by a computer connected to the portable personal device through a serial or parallel cable, the method comprising the steps of:

5 (a) sending a refresh-directory request command to the portable personal device through a serial or parallel cable for requesting a whole file information of a predetermined directory in an internal memory installed in the portable personal device or an external memory in an external memory inserted from outside the portable personal device;

10 (b) receiving a response indicating that the portable personal device is ready to refresh the predetermined directory, from the portable personal device through a serial or parallel cable;

(c) sending an execution command to the portable personal device through a serial or parallel cable for executing the refresh-directory request  
15 command sent in the step (a);

(d) receiving file information including file name, file extension, file attributes, time, date and file size of each file in the predetermined directory, from the portable personal device through a serial or parallel cable, wherein the response received in the step (b) includes length information of a whole data to be received in the step (d), and in the step (d), information on size of a whole memory and available memory is also received.

56. The control method of claim 55, wherein the root directory or a sub-directory can be designated as the predetermined directory.

57. The control method of claim 55, before the step (a) further comprising the steps of:

(e) sending a start sub-command to the portable personal device for indicating a start of a new control command; and

5 (f) receiving state information of the portable personal device from the portable personal device through a serial or parallel cable.

58. A control method of a portable personal device having facilities for storing and playing digital contents by a computer connected to the portable personal device through a serial or parallel cable, the method comprising the steps of:

5 (a) sending a file download request command to the portable personal device through a serial or parallel cable for requesting to download a predetermined file into an internal memory installed in the portable personal

device or into an external memory in an external memory card inserted from outside the portable personal device;

10           (b) receiving a response indicating that the portable personal device is ready to receive the predetermined file, from the portable personal device through a serial or parallel cable; and

             (c) sending the predetermined file on a block-by-block basis to the portable personal device through a serial or parallel cable, wherein the  
15       response received in the step (b) includes byte size information of a unit block of the predetermined file to be sent in the step (c).

59.       The control method of claim 58, wherein the byte size information of the unit block of the predetermined file to be sent in the step (c) which is included in response received in the step (b) is a positive integer, and the byte size of the unit block of the predetermined file to be sent in the step  
5       (c) is set to a value obtained by multiplying a value, which is obtained by raising 2 to the power of the positive integer, by 512.

60.       The control method of claim 58, wherein the file download request command in the step (a) includes a file name, a date, a time and a file size of the predetermined file.

61.       The control method of claim 60, wherein an extended file name having a directory hierarchy structure can be used as the file name of the

predetermined file included in the file download request command in the step (a).

62. The control method of claim 58, wherein the step (c) further comprises the sub-steps of:

(c1) synchronizing the computer and the portable personal device before sending the predetermined file to the portable personal device; and

5 (c2) receiving feedback corresponding to each block from the portable personal device through a serial or parallel cable indicating whether or not the portable personal device normally received each unit block of the predetermined file.

63. The control method of claim 58, before the step (a) further comprising the steps of:

(d) sending a start sub-command to the portable personal device through a serial or parallel cable for indicating a start of a new control  
5 command; and

(e) receiving state information of the portable personal device from the portable personal device through a serial or parallel cable.

64. A control method of a portable personal device having facilities for storing and playing digital contents by a computer connected to the portable personal device through a serial or parallel cable, the method comprising the steps of:

5 (a) sending a file download request command to the portable personal device through a serial or parallel cable for requesting to download a predetermined file into an internal memory installed in the portable personal device or into an external memory in an external memory card inserted from outside the portable personal device;

10 (b) receiving state information of the portable personal device on preparation of receiving the predetermined file, from the portable personal device through a serial or parallel cable; and

(c) sending the predetermined file on a block-by- block basis to the portable personal device through a serial or parallel cable, when the state  
15 information of the portable personal device, received in the step (b), indicates that the portable personal device is ready to receive the file, wherein the file download request command in the step (a) includes file attributes, date, time, file size and file name of the predetermined file, the state information of the portable personal device received in the step (b) includes byte size information  
20 of a unit block of the predetermined file to be sent in the step (c), and when a file having an identical file name to that of the predetermined file exists in the portable personal device, the state information further includes file size information of the file in the portable personal device.

65. The control method of claim 64, wherein the byte size information of the unit block of the predetermined file to be sent in the step (c), which is included in the state information of the portable personal device,



received in the step (b), is a positive integer, and the byte size of the unit block  
5 of the predetermined file to be sent in the step (c) is set to a value obtained by  
multiplying a value, which is obtained by raising 2 to the power of the positive  
integer, by 512.

66. The control method of claim 64, wherein an extended file name  
having a directory hierarchy structure can be used as a file name of the  
predetermined file included in the file download request command in the step  
(a).

67. The control method of claim 64, wherein the file download  
request command in the step (a) further includes information on a time limit in  
which the state information of the portable personal device on preparation of  
receiving the file in the step (b) must be received.

68. The control method of claim 64, wherein the file download  
request command in the step (a) includes flags on whether or not the  
predetermined file is made, whether or not the predetermined file is appended,  
whether or not the predetermined file to be sent in the step (c) is reproduced  
5 during download, and whether or not information on a water mark to prevent  
copying is included.

69. A control method of a portable personal device having facilities  
for storing and playing digital contents by a computer connected to the

portable personal device through a serial or parallel cable, the method comprising the steps of:

- 5           (a) sending a file upload request command to the portable personal device through a serial or parallel cable for requesting to upload a predetermined file in an internal memory installed in the portable personal device or in an external memory in an external memory card inserted from outside the portable personal device, to the computer;
- 10          (b) receiving file size information of the predetermined file from the portable personal device through a serial or parallel cable; and
- (c) receiving the predetermined file on a block-by-block basis from the portable personal device through a serial or parallel cable.

70.       The control method of claim 69, wherein in the step (b), byte size information of a unit block to be received in the step (c) is also received.

71.       The control method of claim 70, wherein the byte size information of the unit block to be received in the step (c) which is received in the step (b) is a positive integer, and the byte size of the unit block received in the step (c) is set to a value obtained by multiplying a value, which is obtained
- 5       by raising 2 to the power of the positive integer, by 512.

72.       The control method of claim 69, wherein an extended file name having a directory hierarchy structure can be used as a file name of the predetermined file.

73. The control method of claim 69, before the step (a), further comprising the steps of:

(d) sending a start sub-command to the portable personal device through a serial or parallel cable for indicating a start of a new control  
5 command; and

(e) receiving state information of the portable personal device from the portable personal device through a serial or parallel cable.

74. The control method of claim 69, wherein the step (c) further comprises the steps of:

(c1) sending an execution command to the portable personal device through a serial or parallel cable for executing the file upload request  
5 command sent in the step (a), before the predetermined file is received from the portable personal device; and

(c2) sending feedback corresponding to each block from the computer to the portable personal device through a serial or parallel cable on whether or not the computer normally received each unit block of the predetermined file.

75. A control method of a portable personal device having facilities for storing and playing digital contents by a computer connected to the portable personal device through a serial or parallel cable, the method comprising the steps of:

5 (a) sending a file delete request command to the portable personal device through a serial or parallel cable for requesting to delete a

predetermined file in an internal memory installed in the portable personal device or in an external memory in an external memory card inserted from outside the portable personal device;

10           (b) receiving a response indicating that the portable personal device is ready to delete the predetermined file, from the portable personal device through a serial or parallel cable;

             (c) sending an execution command for executing the file delete request command sent in the step (a), to the portable personal device through a serial  
15   or parallel cable; and

             (d) receiving a result of deleting a corresponding file in the portable personal device, through a serial or parallel cable, wherein the structure of the transmission data which is received or sent in the steps (a) through (d) includes a start separator character for indicating a start of transmission data,  
20   information on length of the transmission data, an intermediate separator character for indicating a start of a command code or state information, the command code or state information, and an end separator character for indicating an end of transmission data.

76.       The control method of claim 75, wherein an extended file name having a directory hierarchy structure can be used as the file name of the predetermined file.

77.       The control method of claim 75, before the step (a), further comprising the steps of:

(e) sending a start sub-command to the portable personal device through a serial or parallel cable for indicating a start of a new control  
5 command; and

(f) receiving state information of the portable personal device from the portable personal device through a serial or parallel cable.

78. A control method of a portable personal device having facilities for storing and playing digital contents by a computer connected to the portable personal device through a serial or parallel cable, the method comprising the steps of:

5 (a) sending a state information request command to the portable personal computer through a serial or parallel cable for requesting state information of the portable personal device;

(b) receiving total byte length information of the state information of the portable personal device to be sent to the computer, from the portable  
10 personal device through a serial or parallel cable; and

(c) receiving the state information including version, date, model name and security key of the portable personal device, through a serial or parallel cable.

79. The control method of claim 78, wherein the state information received in the step (c) further includes byte length information of the security key.

80. The control method of claim 79, wherein the state information received in the step (c) further includes a manufacturer key, byte length information of the manufacturer key, a manufacturer name, and byte length information of the manufacturer name.

81. A control method of a portable personal device having facilities for storing and playing digital contents by a computer connected to the portable personal device through a serial or parallel cable, the method comprising the steps of:

5 (a) sending a security key registration request command to the portable personal device through a serial or parallel cable for requesting to register a security key in the portable personal device;

(b) receiving a response indicating that the portable personal device is ready to register a security key, from the portable personal device through a  
10 serial or parallel cable;

(c) sending the security key to the portable personal device through a serial or parallel cable; and

(d) receiving a response indicating whether or not the security key sent in the step (c) is normally received, from the portable personal device through  
15 a serial or parallel cable, wherein the structure of the transmission data which is received or sent in the steps (a) through (d) includes a start separator character for indicating a start of transmission data, information on length of the transmission data, an intermediate separator character for indicating a start

of a command code or state information, the command code or state  
20 information, and an end separator character for indicating an end of  
transmission data.

82. The control method of claim 81, wherein the security key is a  
proper identifier of the portable personal device.

83. The control method of claim 81, wherein the security key is a  
proper identifier code of a manufacturer of the portable personal device.

84. The control method of claim 81, wherein byte length of the  
security key is 128 bytes.

85. An operation method of a portable personal device having  
facilities for storing and playing digital contents by control from a computer  
through a serial or parallel cable, the method comprising the steps of:

- (a) receiving in the portable personal device a meta data request  
5 command from the computer through a serial or parallel cable for requesting  
meta data that is information required for reproducing digital contents in  
which a security function is set, downloading a file from the computer, or  
uploading a file to the computer;
- (b) when the meta data request command is received in the step (a),  
10 returning total byte length information of meta data to be sent to the computer  
through a serial or parallel cable; and

(c) sending meta data, including a type of an encryption algorithm, a type of a hash algorithm, and a version of a random number generator, used by the portable personal device, to the computer through a serial or parallel cable.

86. The operation method of claim 85, wherein sending and receiving data between the computer and the portable personal device through a serial or parallel cable in each step is mediated by a docking station.

87. An operation method of a portable personal device having facilities for storing and playing digital contents by control from a computer through a serial or parallel cable, the method comprising the steps of:

(a) receiving a security channel set request command from the  
5 computer through a serial or parallel cable for setting a security channel between the computer and the portable personal device;

(b) sending information on whether or not to continue a security inspection process for setting the security channel between the computer and the portable personal device, to the computer through a serial or parallel cable,  
10 when the security channel set request command is received in the step (a); and

(c) sending information on whether or not the security channel is successfully set, to the computer through a serial or parallel cable, wherein the structure of the transmission data which is received or sent in the steps (a) through (d) includes a start separator character for indicating a start of  
15 transmission data, information on length of the transmission data, an intermediate separator character for indicating a start of a command code or



state information, the command code or state information, and an end separator character for indicating an end of transmission data.

88. The operation method of claim 87, wherein sending and receiving data between the computer and the portable personal device through a serial or parallel cable in each step is mediated by a docking station.

89. An operation method of a portable personal device having facilities for storing and playing digital contents by control from a computer through a serial or parallel cable, the method comprising the steps of:

- 5 (a) receiving an audible meta data request command from the computer through a serial or parallel cable for requesting the audible meta data including title, manufacturing number, author and narrator of digital contents recorded in a predetermined file in an internal memory installed in the portable personal device or in an external memory in an external memory card inserted from outside the portable personal device;
- 10 (b) sending the state information of the predetermined file to the computer through a serial or parallel cable, when the audible meta data request command is received in the step (a); and
- (c) sending the audible meta data of the predetermined file to the computer through a serial or parallel cable, wherein in the step (c), a current  
15 play location and a continuous-reproduction indicator of the predetermined file are also sent.

90. The operation method of claim 89, wherein the audible meta data request command in the step (a) includes byte length information of a file name of the predetermined file, and an extended file name having a directory hierarchy structure can be used as the file name of the predetermined file.

91. The operation method of claim 89, wherein sending and receiving data between the computer and the portable personal device through a serial or parallel cable in each step is mediated by a docking station.